REMARKS

The claims are amended for the purpose of eliminating multiple claim dependencies.

A marked-up version of the claims, which indicates all amendments made, is submitted herewith.

None of the amendments introduces new matter.

An early and favorable examination is earnestly solicited.

Respectfully submitted,

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for Joseph B. Lerch

Date: February 15, 2002

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EXPRESS MAIL CERTIFICATE
Date 2/15/02 Label No. EL 039137720US
I hereby certify that, on the date indicated this paper or fee was deposited with the U.S. Postal Service and that it was addressed for delivery to the Assistant Commissioner of Patents & Trademarks, Washington, DC 20231 by "Express Mail Post Office to Addressee" service.

DB Peck
Name (Print)

Signature

File No: 4634/0K253US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Adrian Lionel GRAY

Serial No: T/B/A (U.S. National Phase of PCT/ZA00/00136, filed August 16, 2000)

Filed: Concurrently Herewith

For: METALLURGICAL THERMOCOUPLE

MARK UP TO PRELIMINARY AMENDMENT

Hon. Commissioner of
Patents and Trademarks
Washington, DC 20231

Attn.: Box PCT, RO/US

Sir:

Prior to examination, Applicants wish to amend the above-identified application as follows.

IN THE CLAIMS

Please delete claim 17 and amend claims 5, 7-10 and 12-15 as follows:

5. (Amended) A thermocouple as claimed in [any one of the preceding claims] claim 1 in which refractory material includes particulate borosilicate and boric acid powder.

7. (Amended) A thermocouple as claimed in [claims 5 or 6] claim 5 in which the boric acid comprises about 3% to 5% weight of the refractory material.

8. (Amended) A thermocouple as claimed in [any one of claims 5 to 7] claim 5 in which the boric acid content of the refractory material is about one half of the borosilicate content.

9. (Amended) A thermocouple as claimed in [any one of claims 2 to 8] claim 2 in which the tubes of the sheath are stainless steel.

10. (Amended) A thermocouple as claimed in [any one of claims 2 to 9] claim 2 in which the refractory material is predried at a temperature of between 135°and 150°C.

12. (Amended) A thermocouple as claimed in [any one of claims 2 to 11] claim 2 in which the refractory material is beaded before being formed into the sheath.

13. (Amended) A thermocouple as claimed in [any one of the preceding claims]

claim 1 in which the tip is formed from a thermocouple cable with a negative metal tube housing a positive wire embedded in a low temperature sintering material [as defined in any one of claims 4 to 7 above].

14. (Amended) A thermocouple as claimed in [any of the preceding claim 1 to 12] claim 1 in which the tip is formed by providing a hot junction from the wires of the thermocouple cable and supported by a sheath as above defined with both tubes and the refractory formed to cap the hot junction.

15. (Amended) A thermocouple as claimed in [any one of claims 2 to 14] claim 2 in which the outer tube of the sheath is annealed after the constriction process and the refractory material at least partially sintered during the annealing process.

[17. A thermocouple substantially as described and illustrated in Fig. 1 of Fig. 2 of the accompanying drawings.]

Please add the following new claims 18-21:

18. A thermocouple as claimed in claim 2 in which refractory material includes particulate borosilicate and boric acid powder.

19. A thermocouple as claimed in claim 6 in which the boric acid comprises about

3% to 5% weight of the refractory material.

20. A thermocouple as claimed in claim 6 in which the boric acid content of the refractory material is about one half of the borosilicate content.

21. A thermocouple as claimed in claim 7 in which the boric acid content of the refractory material is about one half of the borosilicate content.